Academic Program Assessment Report for AY 2022-2023

Program: BS Wildlife and Natural Resources

(Due: June 1, 2023)

Date report completed: 6/12/23

Completed by: Ramos

Assessment contributors (other faculty involved): Sandmeier, Diawara

Please describe the 2022-2023 assessment activities and follow-up for your program below. Please complete this form for each undergraduate major, minor, certificate, and graduate program (e.g., B.A., B.S., B.A.S, M.S.) in your department. Please copy any addenda (e.g., rubrics) and paste them in this document, save and submit it to both the Dean of your college/school and to the Executive Director for Assessment as an email attachment by June 1, 2023. You'll also find this form on the assessment website at https://www.csupueblo.edu/assessment-and-student-learning/resources.html. Thank you.

Brief statement of Program mission and goals:

The Biology Program provides the biological component of the liberal arts education. We promote student understanding of biological concepts relevant to the individual and society, and foster an appreciation of scientific inquiry. Biology is an integral subject for other majors' requirements and the Biology department is committed to fulfilling these service courses and general education for other departments.

The major of wildlife and natural resources leads to a Bachelor of Science (BS) Degree. In addition, supporting courses and general education courses in biology are available to meet a wide range of interests, backgrounds and needs. The Wildlife and Natural Resources Program emphasizes an understanding of fish and wildlife ecology and management with practical skills obtained during laboratory and field exercises. Graduates are prepared for positions with state and federal agencies, tribal departments, and conservation organizations or higher academic degrees. Carefully supervised career planning is provided to all students.

Program Goals

- To provide students with the necessary background to successfully pursue graduate study towards a professional career in wildlife and natural resources;
- To prepare students upon graduation to enter field positions in government or private industry; and,
- To supply students with the necessary coursework to obtain professional certification as associate fishery or wildlife biologists.

I. Assessment of Student Learning Outcomes (SLOs) in this cycle. Including processes, results, and recommendations for improved student learning. Use Column H to describe improvements planned for 2023-2024 based on the assessment process.

A. Which of the program SLOs were assessed during this cycle? **Please include the outcome(s) verbatim from the assessment plan.**	B. When was this SLO last reported on prior to this cycle? (semester and year)	C. What method was used for assessing the SLO? **Please include a copy of any rubrics used in the assessment process.**	D. Who was assessed? Please fully describe the student group(s) and the number of students or artifacts involved (N).	E. What is the expected proficiency level and how many or what proportion of students should be at that level?	F. What were the results of the assessment? (Include the proportion of students meeting proficiency.)	G. What were the department's conclusions about student performance?	H. What changes/improvements to the program are planned based on this assessment?
SLO 1: Students will develop a broad-based knowledge of concepts and terminology in organismal, and ecological biology.	Spring 21	To assess knowledge of organismal and ecological biology we will administered the GRE to each class of First Year Seminar (BIOL 171) for baseline assessment and administer the GRE and MFAT exam to each class of Senior Seminar (BIOL 493). For each of these exams, only the organismal and ecological portions should be considered. The MFAT in particular is divided into Cell Biology, Molecular Biology and	We evaluated 70% (7 of 10) of WANR students enrolled in BIOL 171 and 89% (8/9) of WANR students enrolled in BIOL 493 with the GRE questions. We also evaluated 89% (8/9) with the MFAT.	Our goal is to have 75% of our senior students score at or above 50% of National percentile on the on both the Organismal Biology portion and Population Biology, Evolution and Ecology portion of the MFAT exam.	The average score on the GRE in BIOL 171 was 26%. In BIOL 493, the average score increased to 38%. It is important to note that the GRE scores were not broken down in to organismal and cell molecular components. 25% (2 of 8) of WANR students in BIOL 493 scored above the 50th percentile on both the Organismal Biology portion and Population	We did not meet our goals this year, however the sample size is very small. In addition, when including the BIOL majors, scores on the MFAT are unusally low across the board. The recent addition of the GRE to the MFAT may be causing exam fatigue since the score on these exams are not contributing to	We need to separate the Organismal and Cell/molecular scores on the GRE scores so that they are meaningful for WANR students. This year of data seems anomalously low and we are reluctant to make large progamatic changes based on just this year. Comparing this data to previous years (19-20 and 20-21), there is a pattern where the students perform better on Population Biology, Evolution and Ecology

		Genetics, Organismal Biology, and Population Biology, Evolution and Ecology. The first two are not considered as they are not extensively covered in the WANR curriculum.			Biology, Evolution and Ecology portion of the MFAT exam. 63% (5/8) scored above the 50th percentile on one of the portions.	the students' grades. We don't want to jump to conclusions based on a small sample size.	portion than on the Organismal Biology portion of the MFAT. The sample size is still relatively small (28 students).
SLO 2: Students will know the taxonomy, ecology and natural history of flora and fauna in southern Colorado and the desert southwest	Spring 21	The raw score on taxonomy exams in taxonomy classes were used to assess student knowledge of local species.	We evaluated 100% (17) of students in BIOL 482 and 90% (9/10) of students in BIOL 484.	Our goal for 75% of students to score 70% or better on these exams.	88% of students (23/26) scored over 70% on the taxonomy exams.	We are meeting programmatic goals.	No changes to the program for this SLO at this time.
SLO 4: Students will develop skills in reading and interpreting the scientific literature and in presenting a synthesis of it accurately in oral and written form.	Spring 21	Interpretation of scientific literature will be assessed twice, once during the second year in Botany (BIOL 201) or Zoology (BIOL 202) and again in Senior Seminar (BIOL 493).	We evaluated 24% (12/50) of students enrolled in BIOL 202 (note that these include WANR and BIOL majors) 44% (4/9) of students enrolled in BIOL 493.	Our goal is to have at 75% of our senior students be at Proficient level or better.	In BIOL 202, 50% of students were scored proficient or better. In BIOL 493 100% of students were scored proficient or better.	We are meeting programmatic goals.	In future, we should assess a larger percentage of available students and record data that will allow us to separate WANR students from BIOL students in BIOL 202.

Comments on part I: The WANR program has suffered some faculty turnover in the last year. The former director of the program left the university last summer and failed to complete an assessment report before departing. He also didn't leave consolidated data for following long term trends. I am the interim director. I will be training and mentoring a new faculty mentor over the next year in hopes of handing over the directorship to him in 24-25. I have found that assessment protocol for this program lacks organization and the ability to separate results from the Biology Program. The first priority currently is to ensure that our assessment procedure is producing meaningful data going forward. We will also be completing our program review in the next year and will include a critical evaluation of our assessment procedure in that process.

II. Closing the Loop. Describe at least one data-informed change to your curriculum during the 2022-2023 cycle. These are those that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s) or other issues did you address in this cycle? **Please include the outcome(s) verbatim from the assessment plan.**	B. When was this SLO last assessed to generate the data which informed the change? Please indicate the semester and year.	C. What were the recommendations for change from the previous assessment column H and/or feedback?	D. How were the recommendations for change acted upon?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?
No assessment report was produced for 2021-2022	n/a	n/a	n/a	Ensure continuity of assessment going forward.

Comments on part II: The previous program director did not complete an assessment report for 21-22. The report from 20-21 included no planned changes other than increasing sample size. I don't have access to the peer suggestions for the 20-21 assessment.